

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

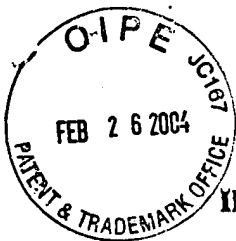
Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Pontus Söderström

Serial No. 10/018,254

Filing Date: March 26, 2002

For: AIR-BAG ARRANGEMENT

Atty. Docket No. 31577-176922

Group Art Unit: 3616

Examiner: Eric D. Culbreth

Customer No.

26694

PATENT TRADEMARK OFFICE

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 37 C.F.R. § 1.131

Sir:

I, Pontus Söderström, declare that:

1. I am the sole inventor for the above-identified Application (Application);
2. Acts relied upon to establish the date of invention described in the Application prior to February 26, 1999 were carried out in a WTO member country;
3. Prior to February 26, 1999, I conceived of the invention described in the Application while working for the Assignee, Autoliv Development AB (Autoliv), and recorded it in an Invention Record Approval Document (IRAD, Exhibit 1),

Page 1, Abstract and Additional Information and Justification, page 2, line 4, and page 3, lines 10-14 of the IRAD show the invention being an airbag unit for foot of a motor vehicle which is to be placed under the feet of an occupant of the motor vehicle,

RECEIVED

MAR - 4 2004

GROUP 3600

Page 1, Abstract, and page 3, lines 19-23 of the IRAD show the airbag unit having a substantially sealed, damp-proof, housing containing the airbag,

Page 1, Abstract, and page 3, lines 16-20 of the IRAD show the housing containing a substantially rigid upper cover as it can be made of a sheet of nylon, polypropylene or a similar plastic and function in load distribution,

Page 1, Abstract, and page 3, lines 21-24 of the IRAD show the cover of the housing is secured to the base of the housing, and

Page 1, Abstract and page 3, lines 10-26 of the IRAD inherently show when the airbag is inflated, the cover of the housing above the airbag is elevated and separated from the base of the housing;

4. From just prior to February 26, 1999 to June 18, 1999, due diligence was shown in that:

From a time prior to February 26, 1999 to March 22, 1999, information was gathered at Autoliv and sent to patent counsel at Forrester Ketley (FK),

From March 22 to March 26, 1999, FK prepared a draft patent specification and sent it to Autoliv for review and comments,

From March 26, 1999 to March 31, 1999, Autoliv reviewed the draft and forwarded it to me for review and comments,

From March 31, 1999 to June 15, 1999, I reviewed and communicated with Autoliv regarding the draft,

From June 15, 1999 to June 17, 1999, Autoliv sent the draft to FK for changes,

From June 17, 1999 to June 18, 1999, FK amended the draft;

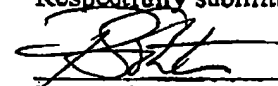
5. On June 18, 1999, FK filed the British counterpart (Application No. 9914267.1) from which the Application claims priority;

6. All statements made of my own knowledge are true and all statements made on information and belief are believed to be true.

It is acknowledged that willful false statements and the like are punishable by fine or imprisonment, or both (18 U.S.C. §1001) and may jeopardize the validity of the application or any patent issuing thereon.

Respectfully submitted,

Date: FEBRUARY 25, 2004



Pontus Söderström

Doc# 522609

Exhibit 1:

Invention Record Approval Document

COMPANY PRIVATE

Invention Record Approval



Packet Number to be entered by Patent Dept.

Date of Invention Record

Title *Excerpt*
Packaging system for Inflatable Curtain airbag module to protect airbag from environment and provide load distribution over airbag surface

Submitted by
Pontus Soderstrom

Abstract

The disclosure in this disclosure aims at providing a modular foot airbag system with both environmental protection, and load distribution integrated into a module that can easily be handled in the assembly process. My proposal is to laminate/sandwich the flat, uninflated, airbag between a thicker (3-5 mm) load distribution member (a sheet of plastic), and a thinner sheet of the same material. The airbag should be kept flat and distributed between the two plastic sheets by means of glue or some fastener that can come loose with a lower force than the deploying airbag will expose it to. The edges of the two plastic sheets should then be attached to each other by means of, for instance, ultrasonic welding, melting, or any other method that provides an environmentally resistant seal. The airbag would thereby be enclosed in an envelope of plastic that both protects from environmental exposure and provides load distribution to the cushion. It would also be easier to handle this unit in both our own process and at the vehicle manufacturer since it is now, one unit and provisions for attachment to other components or the vehicle body easily could be added to the envelope.

Additional Information and Justification for Recommendation and Priority, if needed.

I believe that footbags are a coming product and there is a definite need for an easy way of packaging the system. The footbag is located in a very severe area of the vehicle, where it is exposed to all kinds of environmental, and mechanical stress. We also need a smart packaging solution that minimizes cost while still maintaining its performance properties. Therefore, I think that the priority on this patent should be at least medium.

Recommendation of Patent Committee (Not required before submittal to the Patent Department)

☐ File U.S. Patent Application
☐ Conditional Filing Approval
☐ Trade Secret
☐ Publication
☐ Not Accepted
☐ Hold

ASP Patent Department Manager

Date

Recommendation of Engineering Manager (Required for Submittal)

☐ File U.S. Patent Application
☐ Trade Secret
☐ Publication

Recommendation of Engineering VP (Required for Submittal)

☒ File U.S. Patent Application
☐ Trade Secret
☐ Publication

Engineering Manager

Engineering VP

Steve Soderstrom

Date

Date

COMPANY PRIVATE

COMPANY PRIVATE

Docket No.



Invention Record

Business Unit
NA, Auburn Hills, MI

Carpet
~~test~~

Descriptive Title: Packaging system for Inflatable ~~Curtain~~ *Carpet* airbag module to protect airbag from environment and provide load distribution over airbag surface

Keywords: (for search and/or classification Purposes)

(limit to 4 keywords with 19 characters each) Foot airbags, airbag module, environment, load distribution

1. To what product(s) or project(s) does the invention relate?
(Include code number or name and a written description).

The Inflatable Carpet (INCA)

3. To fulfill your *duty of candor* to the Patent Office to disclose *pertinent prior art*, to help the attorney to understand the field of the invention, to assist the attorney in distinguishing over the most *pertinent prior art*, and to guide the searching for *pertinent prior art*, please advise us of prior art, whether it be from within or outside of the company (attach copies if available).

1. Patents/Patent Applications.
2. Reports.
3. Publicly known or used products, processes or practices, e.g., of Autoliv or competitors, even if not described in printed publication.
4. Product Literature, trade publications, catalogs, advertising brochures, etc.
5. Other related Autoliv Invention Records.

I do not know of any

COMPANY PRIVATE

COMPANY PRIVATE

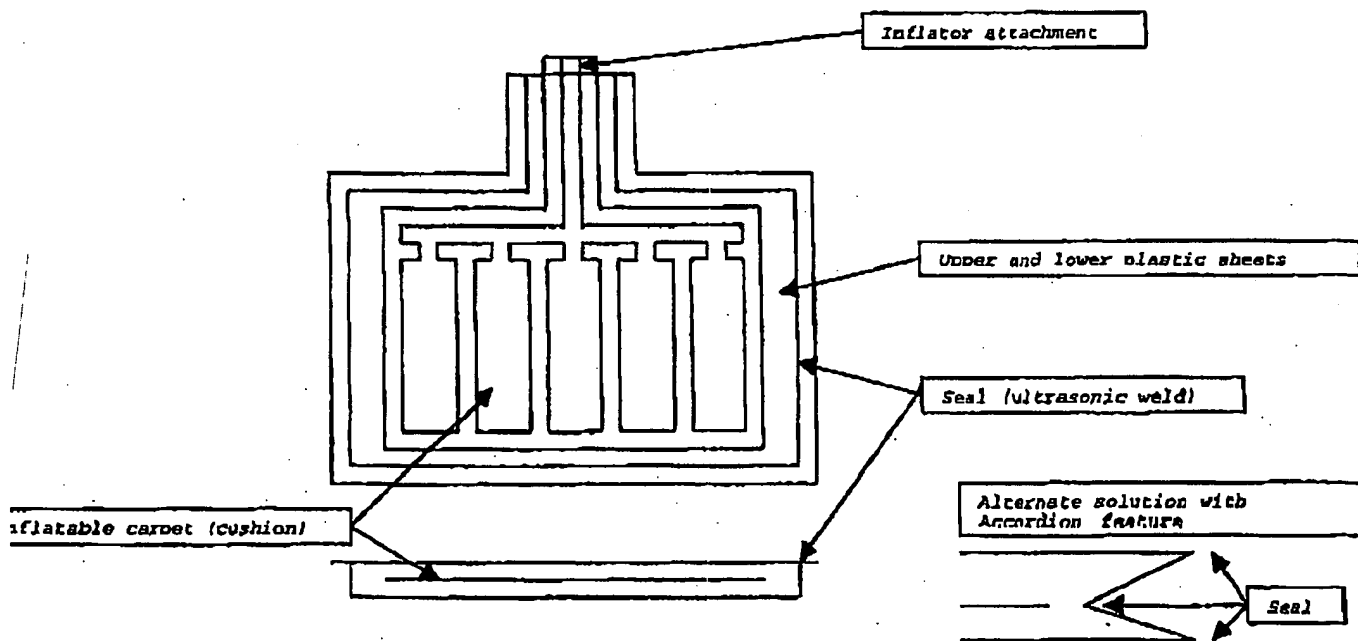
Describe the invention. In doing so, consider the following:

- 3 What do you presently believe the novelty of the invention or the departure of the invention from what you know or believe to be the prior art or practice?
- 3 In mechanical cases, you should include a sketch of at least the part of the invention that is novel or is a departure from the prior art. Such a sketch may be provided on an attached sheet.
- 3 What problem(s) in the prior art and/or what need(s) is solved by your invention? How do you believe that the novelty of the invention solves the problem(s), meets the particular need(s), or represents an improvement (in any respect) over prior art of which you are aware?
- 3 You may describe any surprising or unexpected result achieved by the invention and explain why such result is surprising or unexpected. This usually is particularly applicable to chemical inventions.

The inflatable carpet is an airbag system devised to protect the lower extremities from injury due to high loads and acceleration in a crash where the front wall intrudes into the passenger compartment. To be able to do this, the airbag will have to be installed in the vehicle floor, under the carpet. This area of the vehicle is exposed to several environmental factors, like humidity, abrasion (blunt and puncturing), heat, etc. The inflatable carpet will be installed spread out, flat between the carpet and underlying foam pads in order to inflate rapidly and cover the part of the floor where the feet are during a crash.

In order to be able to take up the loads from the feet to the floor in the inflatable curtain, without bottoming out through the cushion due to too high local surface pressures, a load distribution member has to be placed on top of the airbag. This could be, for instance a sheet of nylon, polypropylene or a similar plastic.

The design in this disclosure aims at providing a modular foot airbag system with both environmental protection, and load distribution integrated into a module that can easily be handled in the assembly process. My proposal is to laminate the flat, uninflated, airbag between a thicker (3-5 mm) load distribution member (a sheet of plastic), and a thinner sheet of the same material. The airbag should be kept flat and distributed between the two plastic sheets by means of glue or some fastener that can come loose with a lower force than the deploying airbag will expose it to. The edges of the two plastic sheets should then be attached to each other by means of, for instance, ultrasonic welding, melting, or any other method that provides an environmentally resistant seal. The airbag would thereby be enclosed in an envelope of plastic that both protects from environmental exposure and provides load distribution to the cushion. It would also be easier to handle this unit in both our own process and at the vehicle manufacturer since it is now, one unit and provisions for attachment to other components or the vehicle body easily could be added to the envelope. The envelope could also be fitted with an Accordion feature to allow the system to inflate unimpededly.



COMPANY PRIVATE

COMPANY PRIVATE

The following information is necessary or useful in completing the drafting of a patent application. Any of the following information which can be, should be, provided at this time. Attachments are invited and encouraged with this submission and whenever available in the future as work progresses.

- a. Detailed laboratory examples of the invention showing how it is made and used.
- b. Identification of the best mode known to you of practicing the invention, as well as possible alternatives.
- c. Sketches, photographs, graphs, lab notebook pages, company reports, etc., including material (1) helpful to make the invention clear and (2) to establish the date of invention.

Please circle the appropriate answer to each question below. Explain "YES" answer in the space provided after Question 13.

- | | | | |
|--|--------------------------------------|-------------------------------------|--|
| Are any <u>potential</u> inventors not presently employed by the company? | Yes | <input checked="" type="radio"/> No | |
| Has any aspect of the invention been disclosed to any person not presently employed by the Company (whether in a printed publication, orally, by private communication, in a U.S. or foreign patent application or patent, by exposure of nonemployees to a commercial or experimental product embodying the invention, etc.)? | Yes | <input checked="" type="radio"/> No | |
| Has any product embodying the invention or made according to the inventive process been offered for sale (whether or not actually sold)? | Yes | <input checked="" type="radio"/> No | |
| Has any product embodying the invention or made according to the inventive process been distributed to anyone outside the Company? | Yes | <input checked="" type="radio"/> No | |
| 1. Was the invention first conceived or first successfully practiced under a government-related research and development program? | Yes | <input checked="" type="radio"/> No | |
| 2. Is any information pertinent to the invention classified as "Top Secret", "Secret", "Confidential", or "Restricted Data" by the U.S. government? | Yes | <input checked="" type="radio"/> No | |
| 3. Was the invention first conceived, first successfully practiced, or ever disclosed outside the United States? | Yes | <input checked="" type="radio"/> No | |
| 4. Have any plans been made to commercialize, disclose, or provide samples of the invention to persons outside the Company? | <input checked="" type="radio"/> Yes | <input type="radio"/> No | |

Elaborate on any "YES" answers to Questions 6-13 here. Attach extra sheets if necessary.

We are starting a concept readiness study with Ford imminently

- | | | |
|--|-----------------------|-------------------------|
| 4. List each person believed to be an inventor, and what he/she is believed to have individually contributed to the invention: | | |
| Name | Location | Individual Contribution |
| Jonas Söderström | ANA, Auburn Hills, MI | All |

COMPANY PRIVATE

COMPANY PRIVATE

Please, list a "Designated Contact" who will be the primary person the attorney will contact regarding patent application preparation and prosecution. This person is likely to be one of the above-identified inventors, but may be a non-inventor who is knowledgeable about the subject matter.

Name: Antus Södersjö Phone: (248) 853 4632 Fax: (248) 853 3665

Recommended filing priority and target for filing application

URGENT -- Immediate
High -- Two months after receipt by Patent and Trademark Dept.
Medium -- Five months after receipt by Patent and Trademark Dept.
Low -- Eight months after receipt by Patent and Trademark Dept.

The following information is requested to assist in prioritizing application filing and/or prosecution of the application.

☐ Commercialization expected by _____ ☐ Public Disclosure expected by _____
☐ Competitive activity known or suspected? _____ ☐ Expected date of first use _____
☐ Contemplated useful life of invention in years _____ ☐ Other _____

Each Company employee listed in response to item 14 should sign and date this form below:

Signature: [Signature] Date: _____
Name Address: 3550 NORMANVOY Citizenship: SWEDISH
ROCHESTER, MI 48306 SS#: _____

Signature: _____ Date: _____
Name Address: _____ Citizenship: _____
SS#: _____

Signature: _____ Date: _____
Name Address: _____ Citizenship: _____
SS#: _____

At least two Company employees who clearly consider themselves not to be inventors should read the entire invention disclosure, then complete, sign and date this form in the space provided.

I hereby certify that we have read this entire invention record, including 10 pages of attachments, and that we understand the invention disclosed in this record.

Signature: David W. Schneider Date: _____
Print name and location: DAVID W. SCHNEIDER ROCHESTER HILLS, MI

Signature: Budkaew Karcewsk Date: _____
Print name and location: Budkaew Karcewsk ROCHESTER HILLS, MI

Autoliv Inc.
350 Airport Rd, Ogden, UT 84405

COMPANY PRIVATE